

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF
INFORMATION

HOUSEKEEPERS' CHAT

Wednesday, January 19, 1938

(FOR BROADCAST USE ONLY)

Subject: "POTATO TEXTURE." Information from the Office of Experiment Stations, United States Department of Agriculture. Source: "Factors Affecting the Cooking Qualities of Potatoes," Bulletin 383, The Maine Agricultural Experiment Station.

--ooOoo--

Tastes differ on either side of the Atlantic -- about potatoes as well as other things. In Europe they like potatoes waxy, probably because over there boiling is the favorite way of cooking them and waxy potatoes break up less in the kettle. But here in America we like waxiness only in new potatoes. Otherwise we want our potatoes mealy. We are fond of potatoes mashed and baked, and potatoes cooked by these methods must be mealy to be good. Moreover, potatoes of a mealy texture usually have the mild flavor we like and also the creamy white inside color. In fact, when most Americans speak of "good cooking quality" in potatoes, they usually mean this quality of mealiness.

Unfortunately for the farmer who raises potatoes, the dealer who sells them, the housewife who buys and cooks them, and everybody who eats them -- unfortunately, this much-desired quality of mealiness is still quite a mystery, even to the scientists who have been studying it. For one thing, even an expert can't tell by looking at a potato -- can't tell for sure whether it will be mealy when cooked. That makes it hard for the housewife who goes to market and wants to make the very best buy in potatoes. But once a potato is cooked, you can soon recognize mealiness by the appearance of the white inside as well as by the taste. The best description I can give you of it comes from Mrs. Sweetman, who has made a long study of cooking quality in potatoes at the Maine Agricultural Experiment Station. In contrasting mealiness and waxiness, she says: "Mealy potatoes when riced or mashed fall into a loose mass of glistening particles, while waxy potatoes tend to form pasty sheets or cohering masses which are translucent but not glistening." Mealy potatoes, then, are inclined to be light, loose and dry when cooked while waxy potatoes are stickier, firmer, more inclined to be soggy.

That's one unsolved problem about mealiness -- how to recognize it with any certainty before the potato is cooked. Another problem is what causes it. All of the scientists working to produce better potatoes are interested in the cause of it and how to produce it. So they have been studying inheritance and variety of potatoes, and growing conditions like soil, fertilizer, cultivation, weather, moisture, and temperature as well as storage and cooking methods -- all in an effort to find out whether any of these things affect mealiness.

Many of these questions are still unanswered. Investigations are still going on. As yet little is known about soil, fertilizers, or cultivation and mealiness and little about inheritance and variety. But the scientists do report a few findings of interest. Maine Experiment Station investigators

in their study of potato variety and mealiness, found that potatoes of the same variety grown in the same field may vary considerably in mealiness. But they also found certain varieties, such as the Green Mountain, Irish Cobbler, and Chippewa, ranking high in mealiness for successive years of tests. So they concluded that variety may have some influence but not as much as other things -- the weather, for example. Weather seems to have considerable effect. There's a reason, apparently, for the fame of Maine and Idaho potatoes. Cool summers produce the most mealy potatoes -- cool and rather dry summers. Farmers in Scotland have long had a saying that a dry summer makes the best potatoes. And studies in this country have shown that dryness especially just before the potato matures is most important. Michigan scientists growing potatoes in greenhouses found that watering a few days before digging made potatoes soggy. And in Wyoming they found that irrigated potatoes were less uniform in quality than those grown on dry land.

These findings, interesting as they are, can't be of much practical use to you if you are a housewife and buy your potatoes. You can't do much about the way they are grown. So you will probably be more interested in what the scientists have learned about storing and cooking potatoes for mealiness. You can do something about keeping potatoes in your home at the best temperature and cooking them in ways that promote mealiness.

First, about storage. Potatoes have the power to change the starch they contain into sugar, or the sugar into starch, according to the temperature at which they are stored. At any temperature lower than 40 degrees Fahrenheit potatoes become sweet and lose their mealiness. One scientist puts it this way: "A sweetish potato is never mealy." Studies have showed that the accumulation of sugar in potatoes is harmful to their flavor and mealiness and other cooking qualities. So they advise keeping potatoes at a temperature above 45 degrees. This is different from the old idea about keeping the potato cellar around freezing. The only exception to the new rule is if you want to keep potatoes over a long period. In this case, store them in a cold place up to a few weeks before using; then transfer them to a warmer place where they can change their sugar back to starch and recover their mealiness before cooking.

Finally, about cooking for mealiness. Whether the boiled potatoes you serve the family are light, dry, and mealy or soggy and water-soaked depends a good deal on how fast you boil them. If you drop them in rapidly boiling water and keep them at boiling temperature until done, they will be mealer than if you cook them slowly. Simmering results in sogginess. On the other hand, don't cook them so hard that they are broken and battered to pieces in the kettle. Another point -- boiled potatoes are likely to be more mealy if they are cooked in their skins, which act as a protection against breaking and water-soaking. After cooking, do everything possible to dry out the potatoes. Thorough draining helps. So does removing the cover from the kettle and using a porous cloth that will let the steam out. So does removing the skins immediately.

As for baked potatoes, they will be more mealy if you split the skins as soon as they come from the oven. Or even better, gently crush the potato open and then return it to the oven to dry out a few minutes. In general, baking seems to be the method that makes potatoes the most mealy, and boiling and steaming the methods that give the least mealiness.

